SFMTA | Municipal Transportation Agency

Capital Asset Management Program: Asset Breakdown Structure and Condition Assessment

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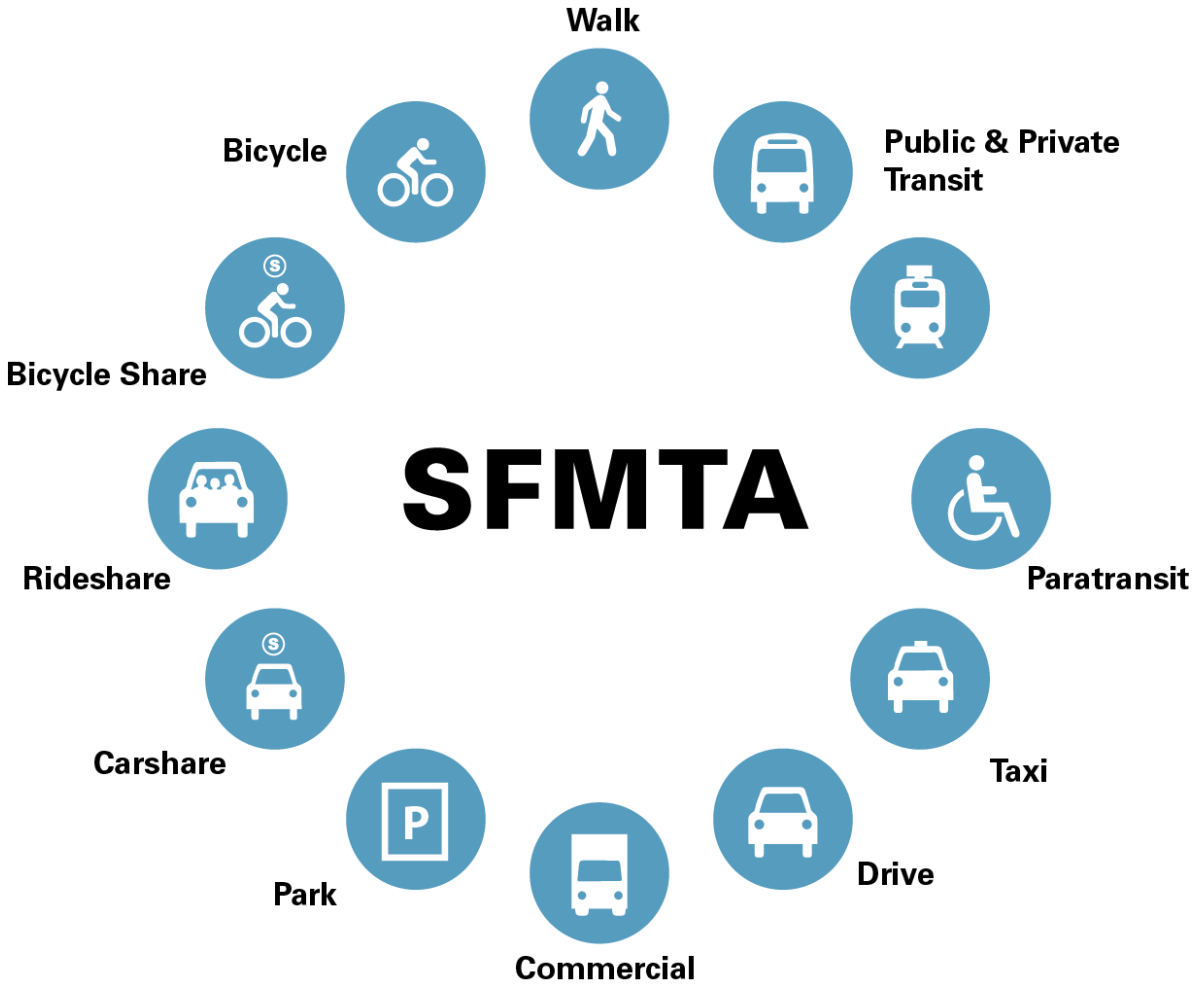

SFMTA Assets

- 1,040 transit vehicles
- 71.5 miles of Light Rail Vehicle & 8.8 miles of Cable Car tracks
- 9 subway stations, with 9 elevators & 28 escalators
- 24 surface light rail stations & numerous boarding platforms
- 19 operations, maintenance & administrative facilities
- 208 miles of bicycle paths, lanes & routes
- 1,184 traffic signals
- 40 off-street parking garages & lots
- 28,862 metered parking spaces
- 1,500 taxis

Asset Management at SFMTA

- Started in 2006
- The regional MPO, the Metropolitan Transportation Commission (MTC), has a history of emphasizing maintenance and repair with Fix it First Policy
- SFTMA worked with MTC to develop asset structure for region
- SFMTA refined asset structure and classes to meet agency needs

Asset Class Definition

- The SFMTA published the State of Good Repair Asset Inventory Report in 2010
- Primary Asset Classes:
  - Motor Coach Vehicles
  - Light Rail Vehicles
  - Trolley Coach Vehicles
  - Track
  - Overhead System
  - Facilities
  - Stations
  - Train Control & Communications
  - Parking and Traffic
  - Other Systems & Vehicles

Asset Attributes

List of Attributes Included in Asset Inventory	
Asset ID # and Description	In Service Date
Asset Category	Scheduled Useful Life
Unit Type (i.e. vehicle)	Unit Replacement Cost
Quantity	Location
Mode Type	Rehabilitations per life and cost/unit

SFMTA Asset Inventory – Sample Line Items

MTC RTCI/TERM Data Format

Asset ID	Pjt ID	Mode	Qty	Units	Asset	Service Date	Useful Life	Unit Repl. Cost	Location	Category	Element1	Element2	Element3	Rehabs Per Life	Rehab Cost/Unit	Notes
20051	1003	Light Rail	1	Each	Elevators and Conveying Systems-	1977	25	$2,092.663	2200 San Jose Ave	Facilities	Maintenance		Elevators and Conveying	0	$0	Maintenance-Curtis E. Green (LRV)
20052	1003	Light Rail	1	Each	HVAC - Equipment-Maintenance-Curtis E.	1977	25	$5,231.658	2200 San Jose Ave	Facilities	Maintenance		HVAC - Equipment	0	$0	Maintenance-Curtis E. Green (LRV)
20053	1003	Light Rail	1	Each	HVAC - Controls-Maintenance-Curtis E.	1977	20	$2,092.663	2200 San Jose Ave	Facilities	Maintenance		HVAC - Controls	0	$0	Maintenance-Curtis E. Green (LRV)
20054	1003	Light Rail	1	Each	HVAC - Distribution Systems-Maintenance-	1977	50	$5,231.658	2200 San Jose Ave	Facilities	Maintenance		HVAC - Distribution	0	$0	Maintenance-Curtis E. Green (LRV)
20055	1003	Light Rail	1	Each	Electrical Equipment-Maintenance-Curtis E.	1977	30	$5,231.658	2200 San Jose Ave	Facilities	Maintenance		Electrical Equipment	0	$0	Maintenance-Curtis E. Green (LRV)

Assets Disaggregated into Major Components

Asset	Percent of Asset Value	Useful Life (years)
Bus Maintenance Facility	*100%*	--
Substructure	15%	100
Superstructure	18%	100
Roofing	5%	25
Building Exteriors	10%	50
Elevators and Conveying Systems	1%	25
HVAC - Equipment	3%	25
HVAC - Controls	1%	20
HVAC - Distribution Systems	3%	50
Electrical Equipment	3%	30
Electrical Rough-in	7%	70
Plumbing Fixtures	3%	25
Plumbing Rough-in	5%	50
Fire Protection Systems	3%	40
Fire Detection Systems	1%	20
Built-in Equipment and Specialties	12%	25
Interior Finishes	7%	15
Total	**100%**	

Assets Grouped into Projects

Subcomponents of Green Main Maintenance Building

Substructure- Green Main Maintenance Bldg.
Superstructure- Green Main Maintenance Bldg.
Roofing- Green Main Maintenance Bldg.
Building Exteriors- Green Main Maintenance Bldg.
Elevators and Conveying Systems- Green Main Maintenance Bldg.
HVAC - Equipment- Green Main Maintenance Bldg.
HVAC - Controls- Green Main Maintenance Bldg.
HVAC - Distribution Systems- Green Main Maintenance Bldg.
Electrical Equipment- Green Main Maintenance Bldg.
Electrical Rough-in- Green Main Maintenance Bldg.
Plumbing Fixtures- Green Main Maintenance Bldg.
Plumbing Rough-in- Green Main Maintenance Bldg.
Fire Protection Systems- Green Main Maintenance Bldg.
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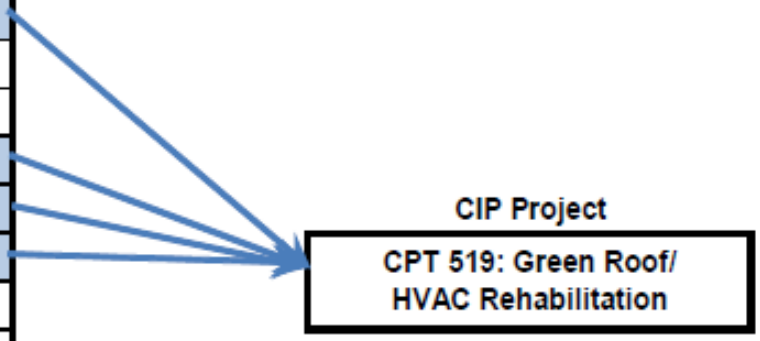
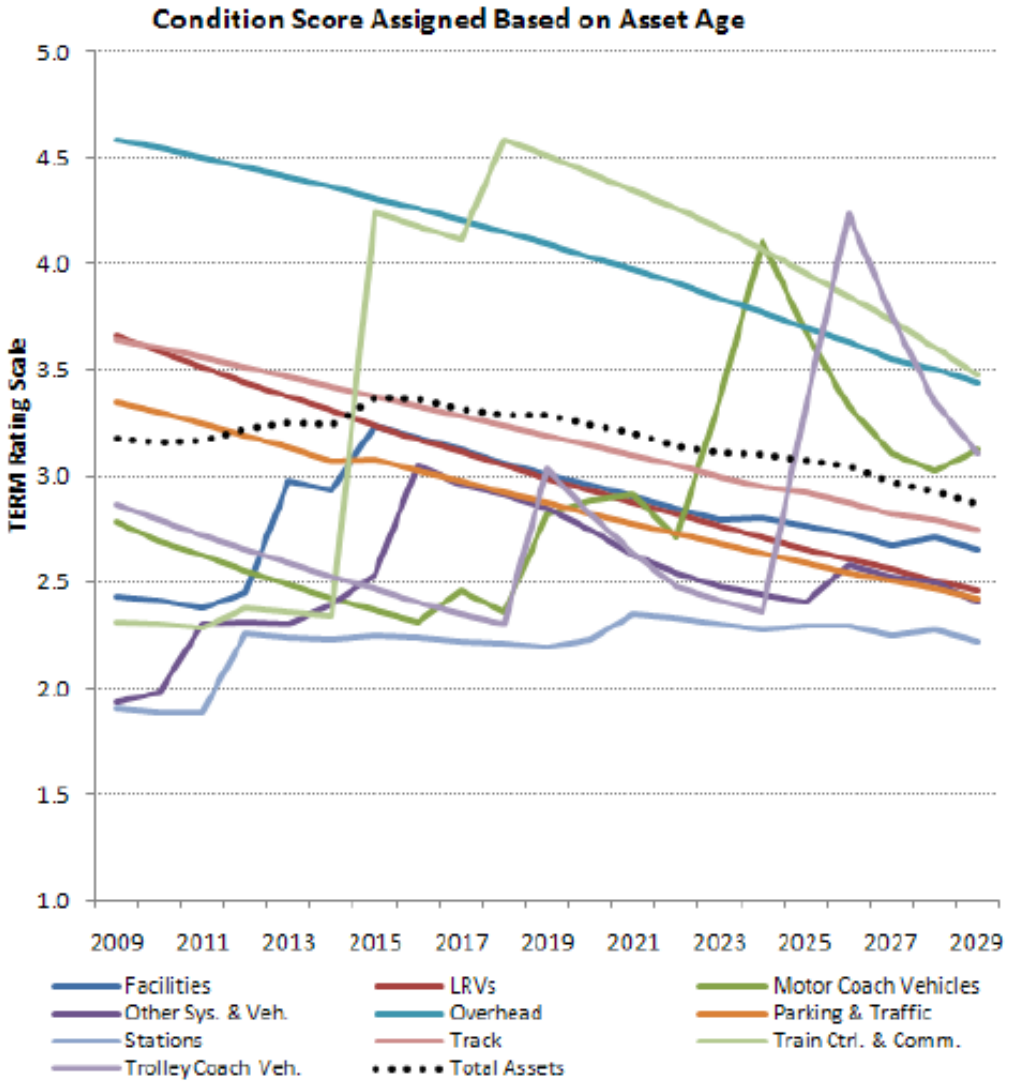
Interior Finishes- Green Main Maintenance Bldg.



Asset Condition Assessment

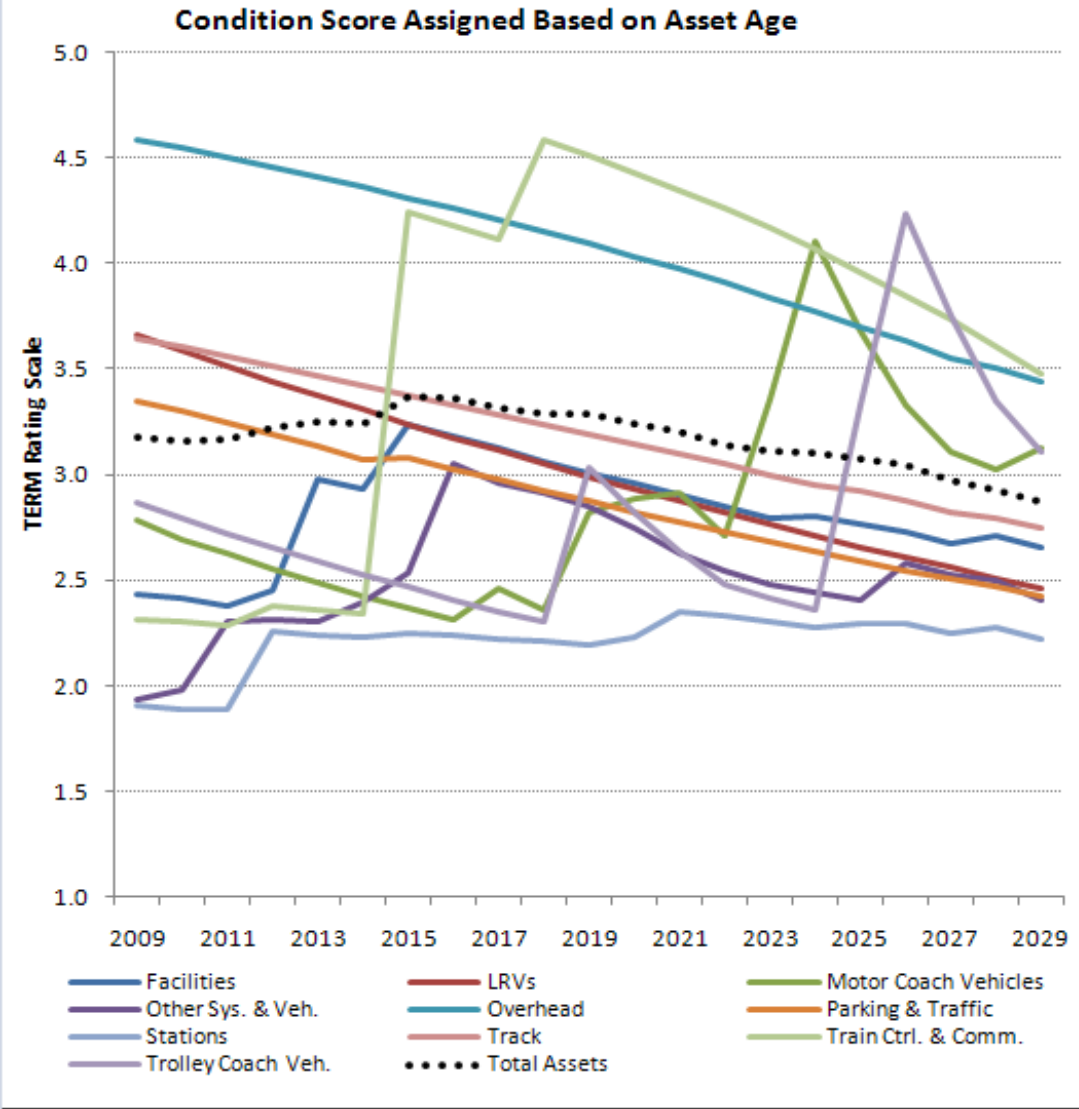
- Primary factor used for SGR analysis is age
- FTA condition rating is a function of asset age
- Condition based on inspection data available for some assets (i.e. track maintenance) and used to inform investment decisions; but not for the financial analysis

CONDITION SCORE BY ASSET CLASS

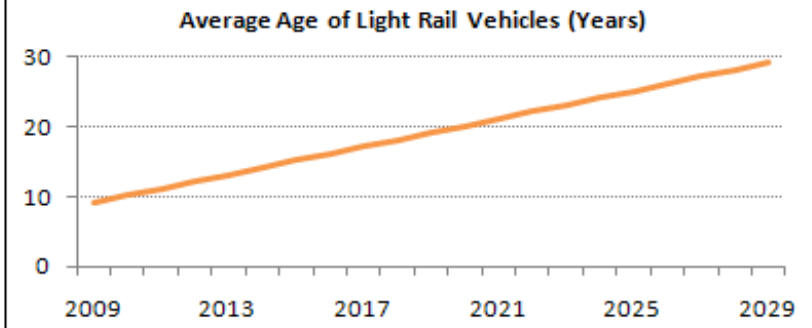


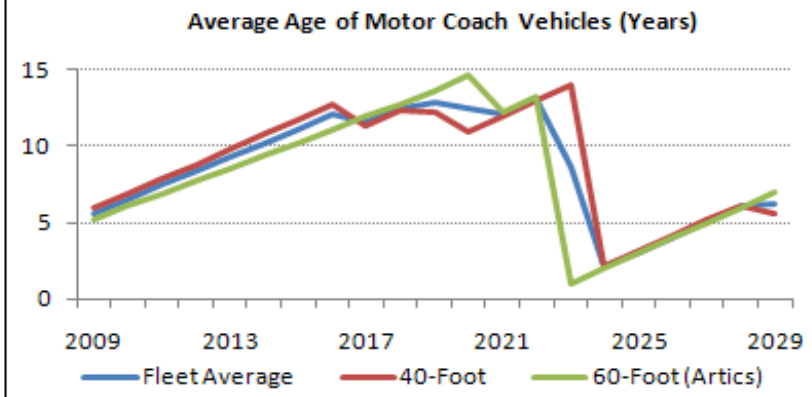
SGR Analysis @ $163M/Year (Avg) – 100% 2009 Priorities 2009 Financial Plan Level

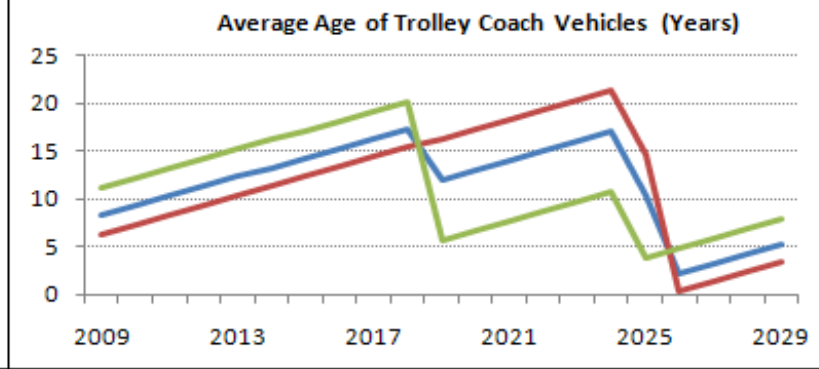
CONDITION SCORE BY ASSET CLASS



AVERAGE FLEET AGE BY MODE

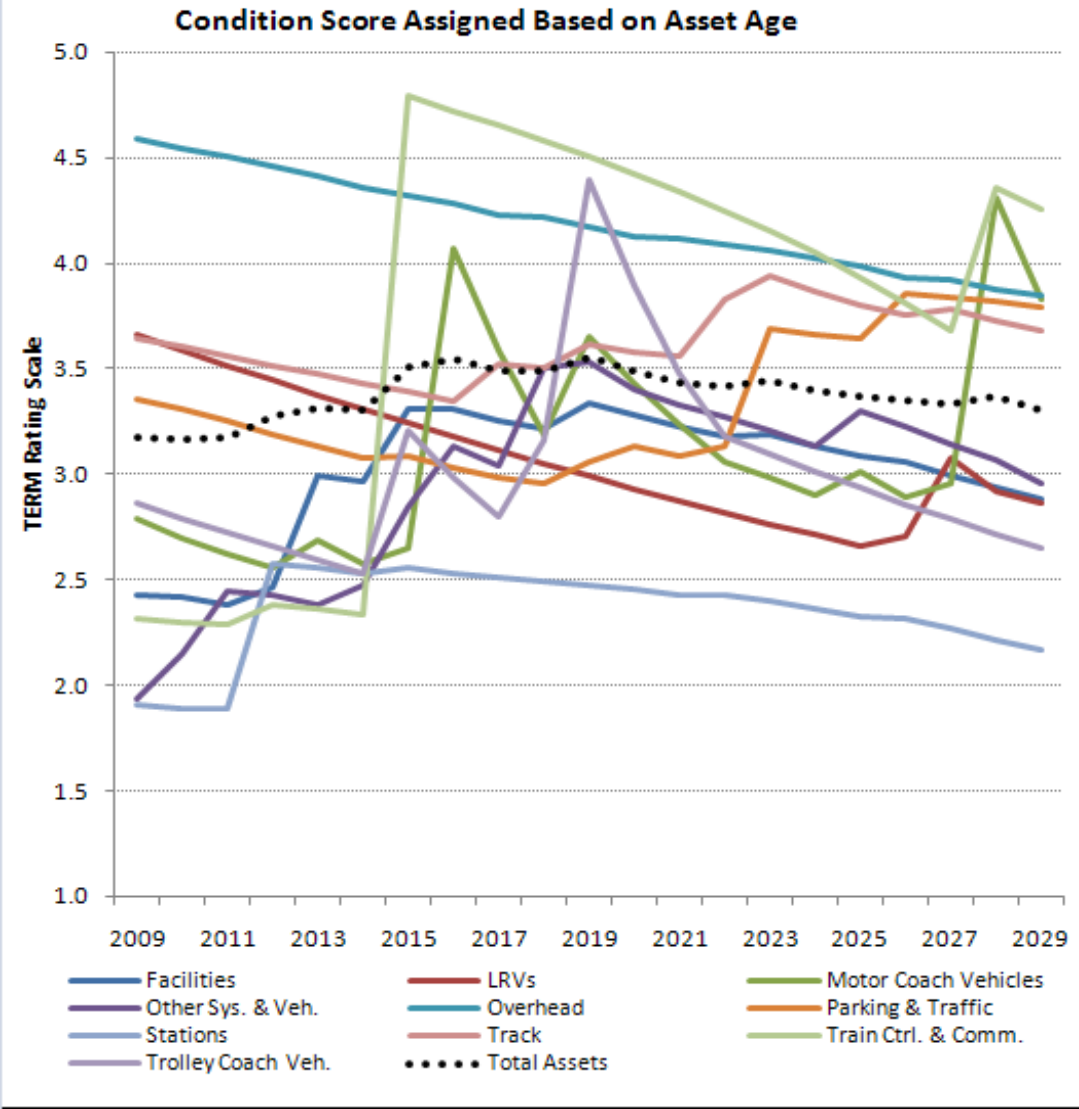




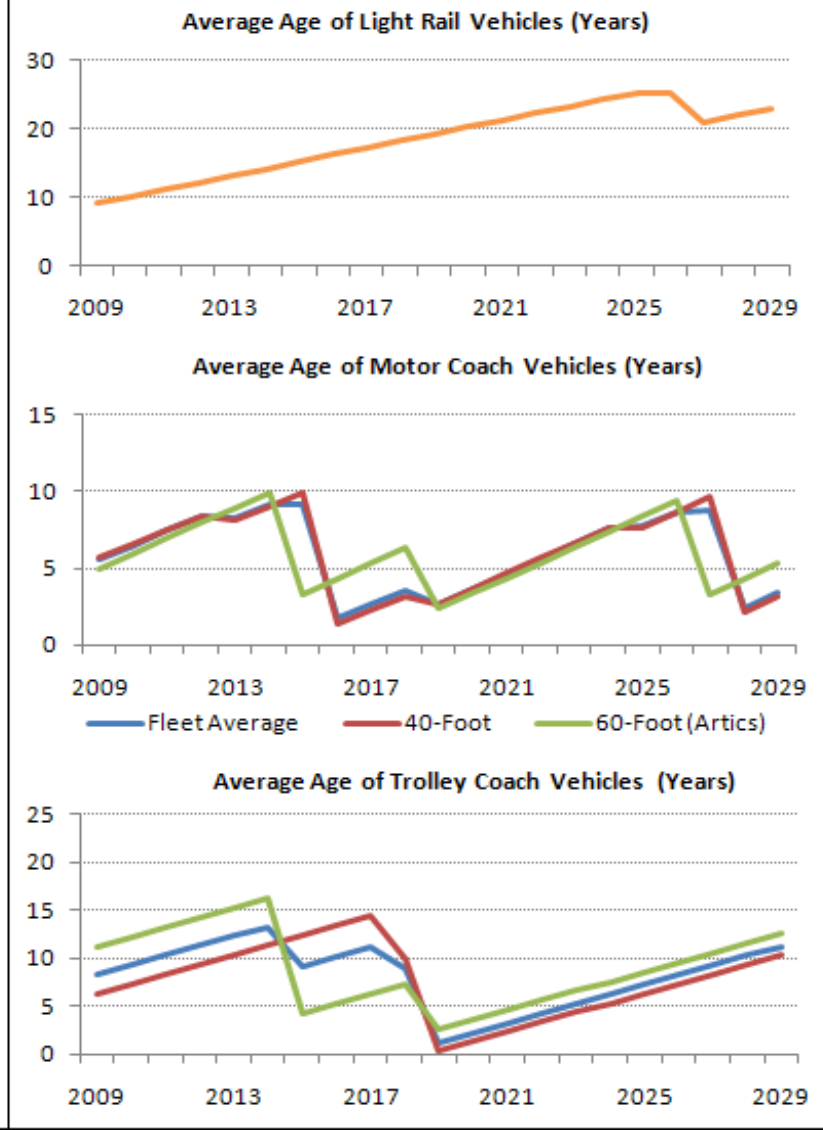


SGR Analysis @ $366M/Year (Avg) – 100% 2009 Priorities Maintain Current Backlog

CONDITION SCORE BY ASSET CLASS

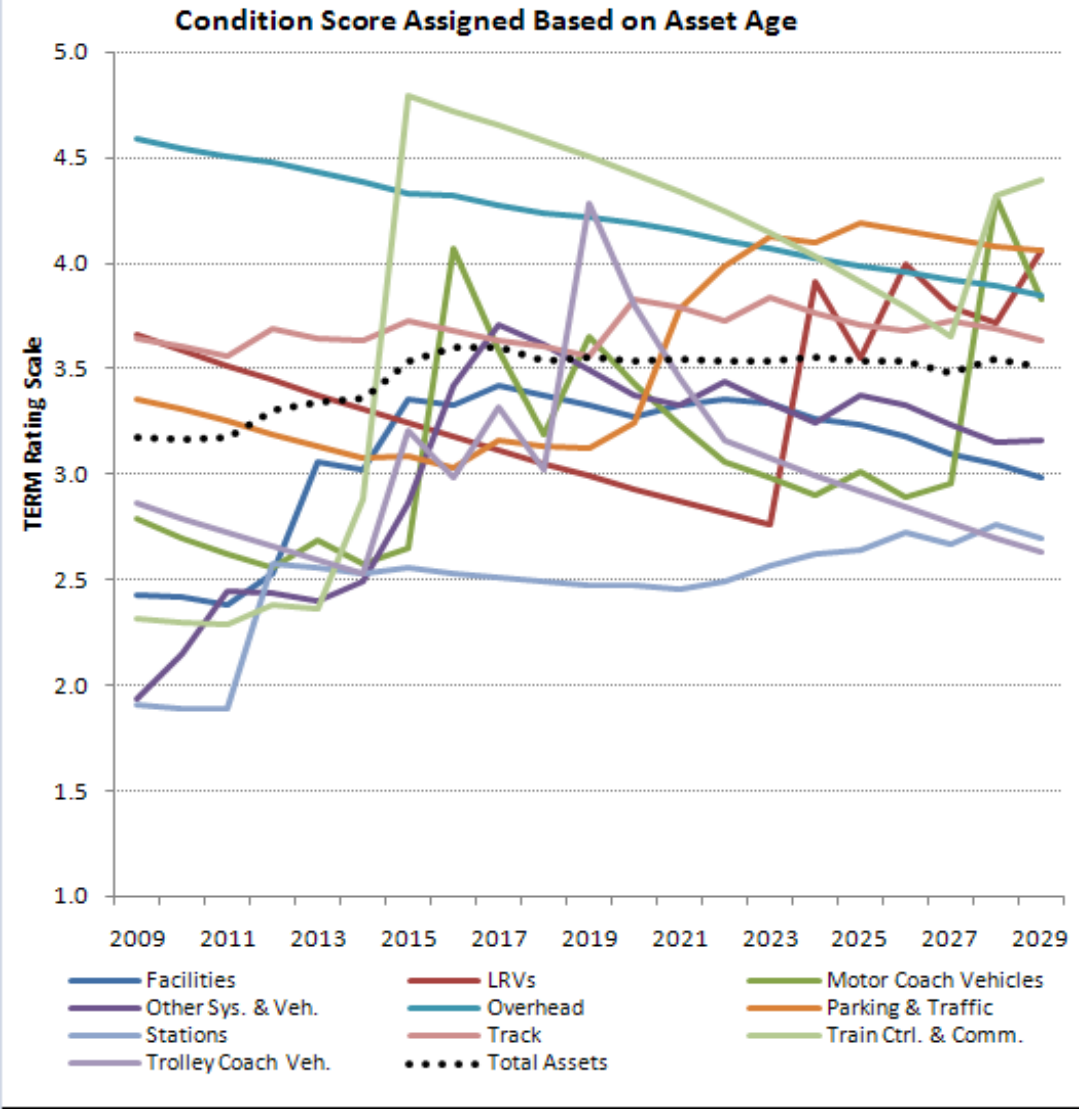


AVERAGE FLEET AGE BY MODE

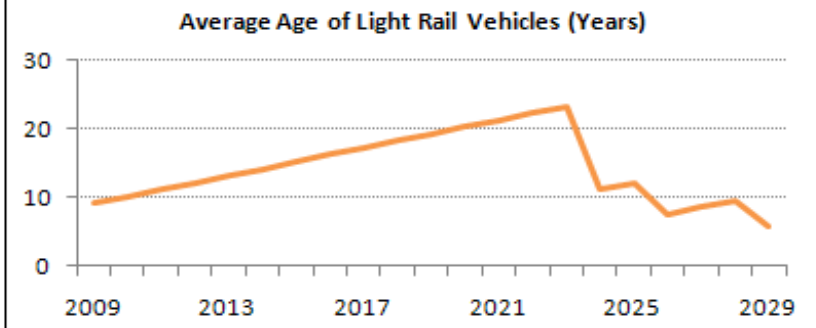


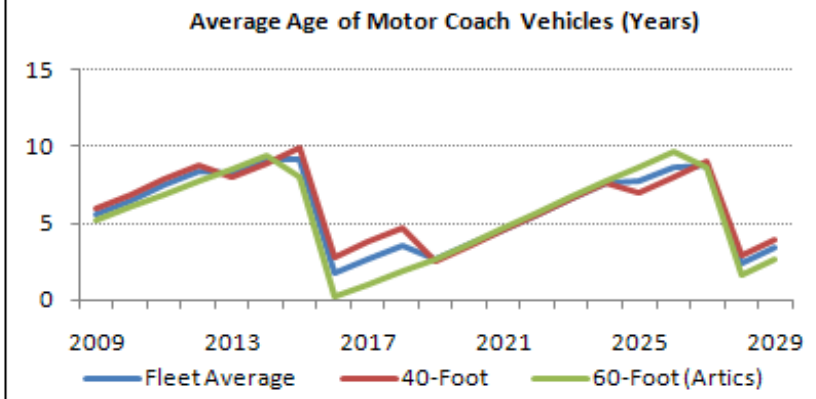
SGR Analysis @ $432M/Year (Avg) – 100% 2009 Priorities Reduce Current Backlog by One-Half

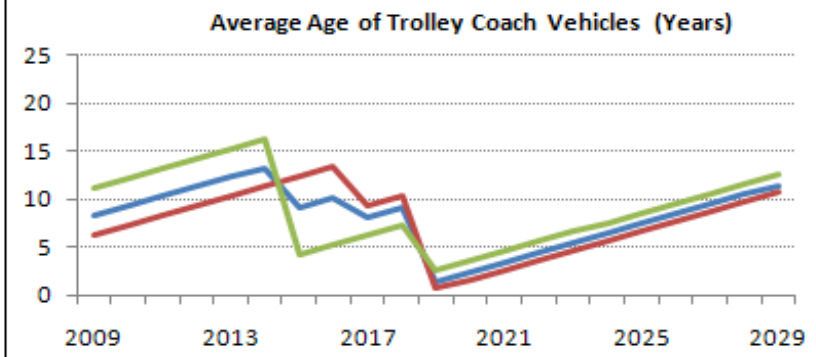
CONDITION SCORE BY ASSET CLASS



AVERAGE FLEET AGE BY MODE







Future Asset Condition Assessment

- Anticipate that different assets will require different condition assessment process:
  - Performance and critical risk
  - Key attribute (key indicator)
  - Efficiency (i.e. energy efficiency of hybrids)
  - Manufacturing Standards and Recommendations (Anticipated, rather than inspection-based)

Asset Condition: Next Steps

- Enterprise Asset Management System based on inspection and other asset condition assessments
- Establish acceptable asset condition thresholds based on performance metrics
- Project conditions and develop short and long-range maintenance and replacement plans

Lessons Learned

- Agree to asset breakdown structure up front
- Agree to standard nomenclature
- Establish update procedures
- Establish asset management goals and metrics

Thank You

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